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Internet Delivery of Captains in Command Training: Administrator's Guide

Scott Shadrick
U.S. Army Research Institute

Tony Fullen
Northrop Grumman Technical Services

Brian Crabb
U.S. Army Research Institute

Fort Knox Research Unit
James W. Lussier, Chief

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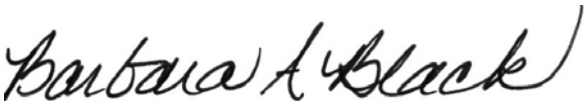

BARBARA A. BLACK, Ph.D
Research Program Manager
Training and Leader Development

MICHELLE SAMS, Ph.D.
Director

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Northrop Grumman Technical Services

Technical review by

Christopher Vowels, U. S. Army Research Institute

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In support of developing adaptive leaders, the research leading to this research note explored methods to implement an Internet-delivered version of the Captains in Command research product. Additional enhancements include student input tracking, data collection, and storage on a client side server. Original source video files were compressed to meet web standards and system requirements. Vignettes were posted to a server and tested for functionality and playability. The research note describes how to post files to a client side server and how to use the training product.

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INTERNET DELIVERY OF CAPTAINS IN COMMAND TRAINING: ADMINISTRATOR'S GUIDE

CONTENTS

List of Table

List of Figures

Introduction

To support the Future Force, the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) investigates the special training needs generated by advanced technologies. In the research project entitled *Captains in Command WEB Version*, ARI's Fort Knox Research Unit set out to develop a method to deliver the DVD version of Captains in Command over the Internet.

Background

Army leaders have repeatedly mentioned the need to grow innovative, adaptive leaders. For example, in *A Statement on the Posture of the United States Army 2006*, Secretary of the Army Francis J. Harvey and General Schoomaker list growing adaptive leaders as one of four overarching, interrelated Army strategies.

Reports have suggested that operations in the complex and unpredictable environment of postwar Iraq have contributed to the development of adaptive leaders. After completing interviews with junior officers deployed to Iraq, Wong (2004) suggested that the "crucible" experience of Operation Iraqi Freedom (OIF) is producing lieutenants and captains that are "becoming more creative, innovative, and confident as they learn to deal with the complexities, unpredictability, and uncertainties of counterinsurgency and nation-building in postwar Iraq" (p. 2-3). While the crucible experience may be producing a cohort of adaptive leaders, the rapidly evolving operational environment is placing increasingly difficult demands on junior leaders. Wong (2004) also highlights a growing number of junior officers in OIF that are "frustrated by the constant change" while other junior officers feel "unease in dealing with ambiguity" (p. 20).

The demands of the contemporary operational environment (COE) are leading to significant training challenges. Army leaders will need to be skilled at making rapid battlefield decisions under the most difficult conditions. Rather than the "trial-by-fire" of crucible experiences described by Wong (2004), it is more appropriate to provide our junior leaders with the adaptive skills they require through focused, deliberate training.

One tool that has been successfully used to train the ability to think adaptively is the Captains in Command training program (Shadrick & Lussier, 2002; Shadrick, Lussier, and Fultz, 2007; Shadrick, Crabb, Lussier, & Burke, 2007). This existing DVD-based training program provides junior leaders an effective tool to develop necessary adaptive skills through focused and deliberate training. However, distribution of the current training via DVD presents three noteworthy challenges:

- Training is accessible only to those who possess the DVD.
- Physical distribution of "hard copy" materials is somewhat cumbersome and inefficient.
- The training materials cannot be readily (i.e., quickly and simultaneously) updated across the entire population of end users.

As a part of a larger discussion, ARI briefed the concept of the adaptive thinking training program to the U.S. Training and Doctrine Command Commander, General William S. Wallace,

on 31 January 2006. Commenting on the briefing, General Wallace expressed a need to make training more accessible using distance learning methodologies.

Overview

This effort addressed the concerns discussed above by developing an Internet-delivered version of Captains in Command training that officers can access through Army Knowledge Online (AKO) or other appropriate Army portals. The result is a readily accessible, easily updatable training program that allows leaders to improve their ability to respond to tactical situations. Deployed officers, as well as those officers at the schoolhouse or in deployable units, will be able to participate in the training virtually anytime and anywhere. Additionally, the tool will provide a vehicle for continued research into the development of complex cognitive skills.

The research team considered several methods to redesign the original DVD version of Captains in Command for use over the Internet. The research team began by developing a new graphical user interface using Adobe ® Flash version 8. The new Flash software allowed for faster file compression with an acceptable reduction in quality. (The team used Director software to build the DVD version, which did not have this file compression capability.) The team also employed the technique of using pre-loaders to reduce the time it took to load pages. Finally, the team developed a database to capture student responses for further analysis.

Web Installation Instructions

The following steps outline the process to install Captains in Command on a Windows-based server running SQL Server 2000 and are **intended for qualified technical experts only**. (This program will not work on a Linux based server without reprogramming the database.)

Step 1: Upload all lesson files to the server location, including .html and .asp pages, .swf, and .flv files. The directory hierarchy shown in Figure 1 below must be mirrored on the new server in order for the Captains in Command application to work properly.

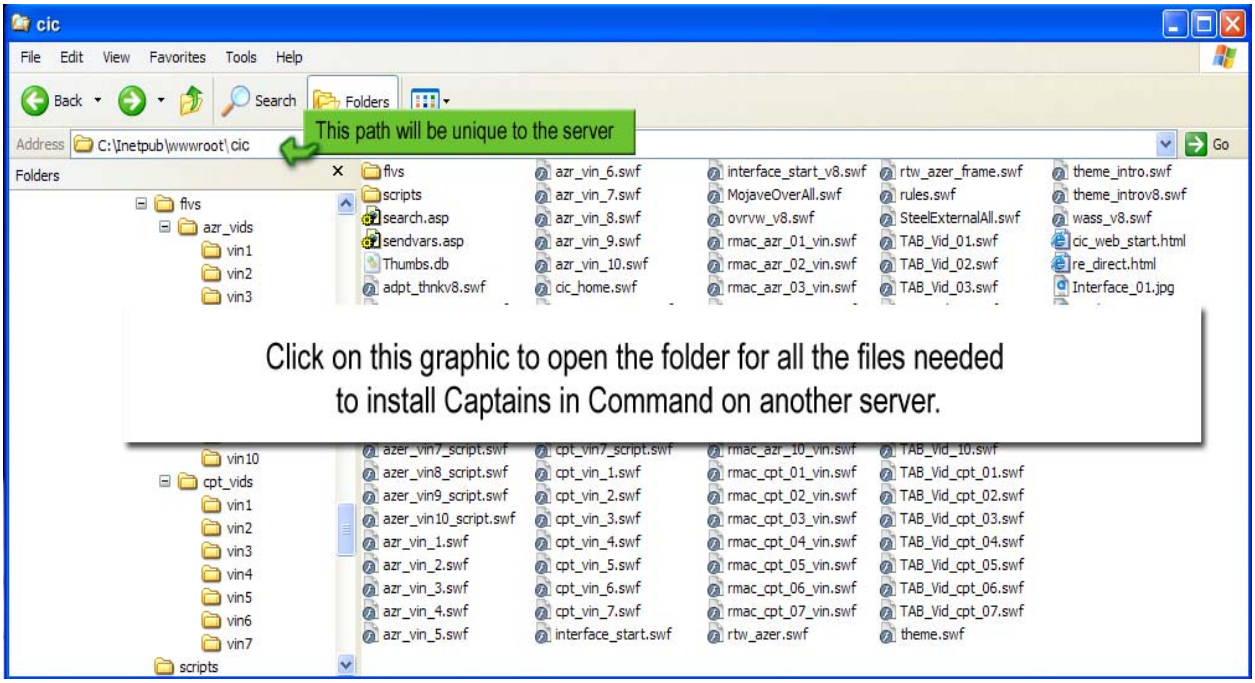


Figure 1. Directory Hierarchy.

Step 2: Open Internet Information Services and ensure that the Mime types include .swf, .flv, and .asp files. Without these files the training product will not work properly.

Step 3: Put the "cic.reg" file anywhere on the IIS machine. Double click to open, and edit the database server location.

Step 4: Put the Inserts and "Queries.sql" file anywhere on the IIS machine. This file controls the information and table layout for the database.

Step 5: Put the "TLCDataAccess.dll" file anywhere on the IIS machine. Create a new com object. Install the com package and point to "TLCDataAccess.dll."

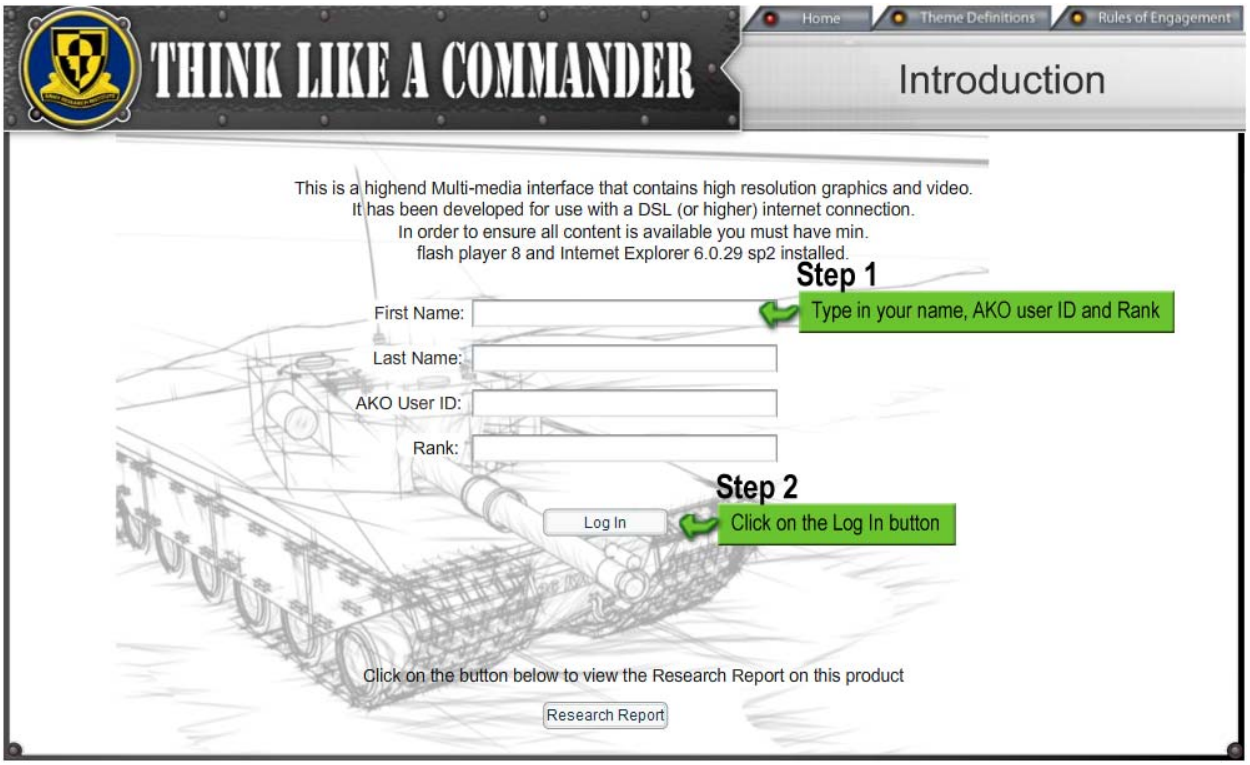
Step 6: Change action script codes on all 17 vignettes' submit buttons to point to the correct location (URL of the new server must be the complete http address).

Step 7: Using Enterprise Manager, restore the database using the "cic" file. This is a backup of the database.

User/Instructor Guide

The following guide is for the Instructor to understand the "flow" and navigation of the Captains in Command WEB version. It provides a systematic tour of training material including screen shots of each page. This guide will enable the instructor to walk students through the training material.

1. Once you have accessed the BCKS website or host server for Captains in Command, you will see Figure 2 below. Log in by providing the information requested.



Note: Provide all information before proceeding.

Figure 2. Login Screen.

2. The next screen contains a list of vignettes to select. Also available on this page are four videos that provide additional information. See Figure 3.

a. "TLAC Themes" is a sample scenario that takes students through the process of considering the eight themes based on the given scenario.

b. "Overview" is a 10-minute video that explains the idea of theme-based training and its advantages. Major General (Retired) Don Holder sets the stage.

c. "Adaptive Thinking" is a short video that will help students understand this style of learning.

d. "BG(R) Wass de Czege" is a short explanation of where the Army is headed and why adaptive thinking skills are so important to its future.

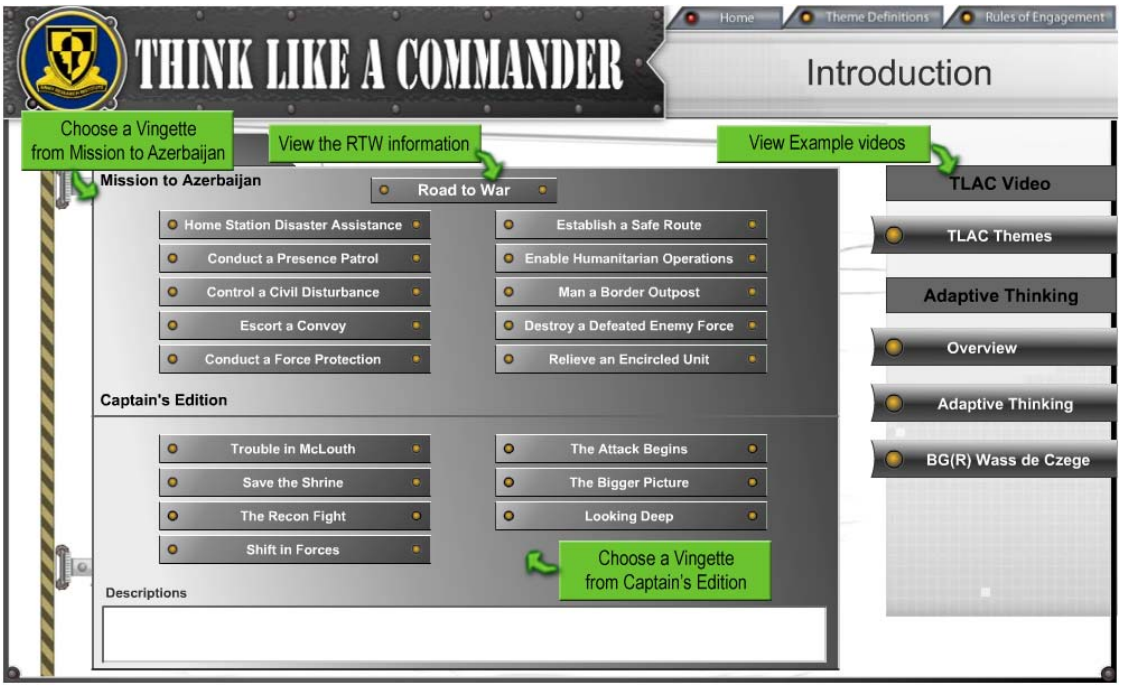


Figure 3. Main Menu.

3. Included on this page are two dropdown menus that provide references for students' use. These dropdowns are available throughout the individual vignettes.

a. "Theme Definitions" provides students reference to each of the eight themes. See Figure 4.

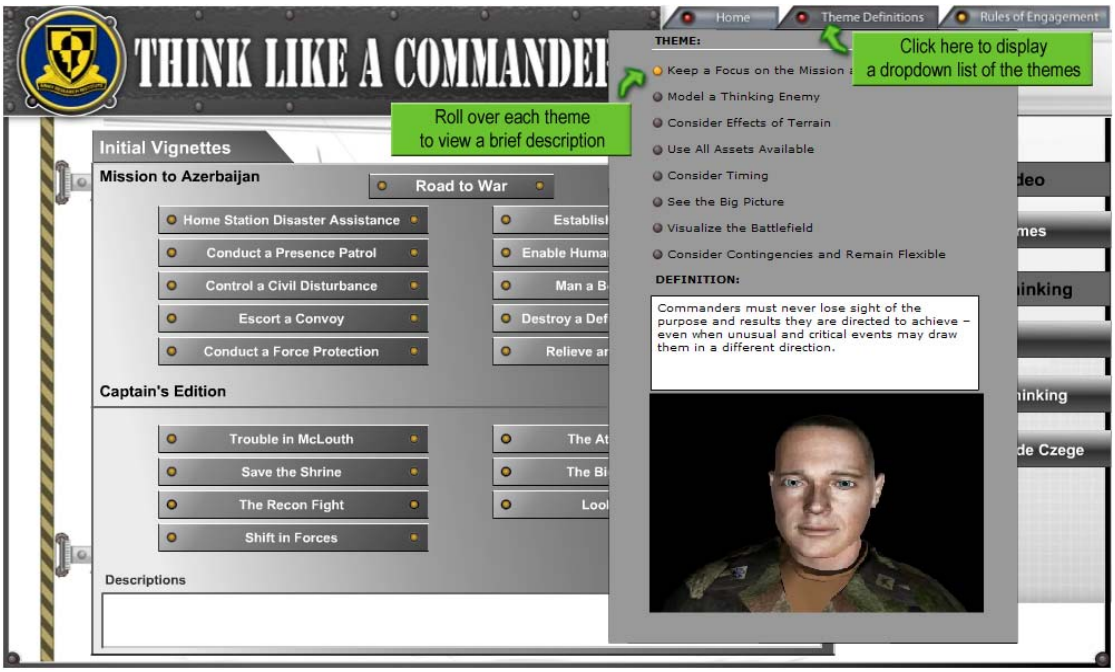


Figure 4. Theme Descriptions.

b. “Rules of Engagement” gives a brief description of the ROE. See Figure 5.

Figure 5. Rules of Engagement.

4. Once a vignette is selected, the lesson begins with a brief scenario introduction. See Figure 6.

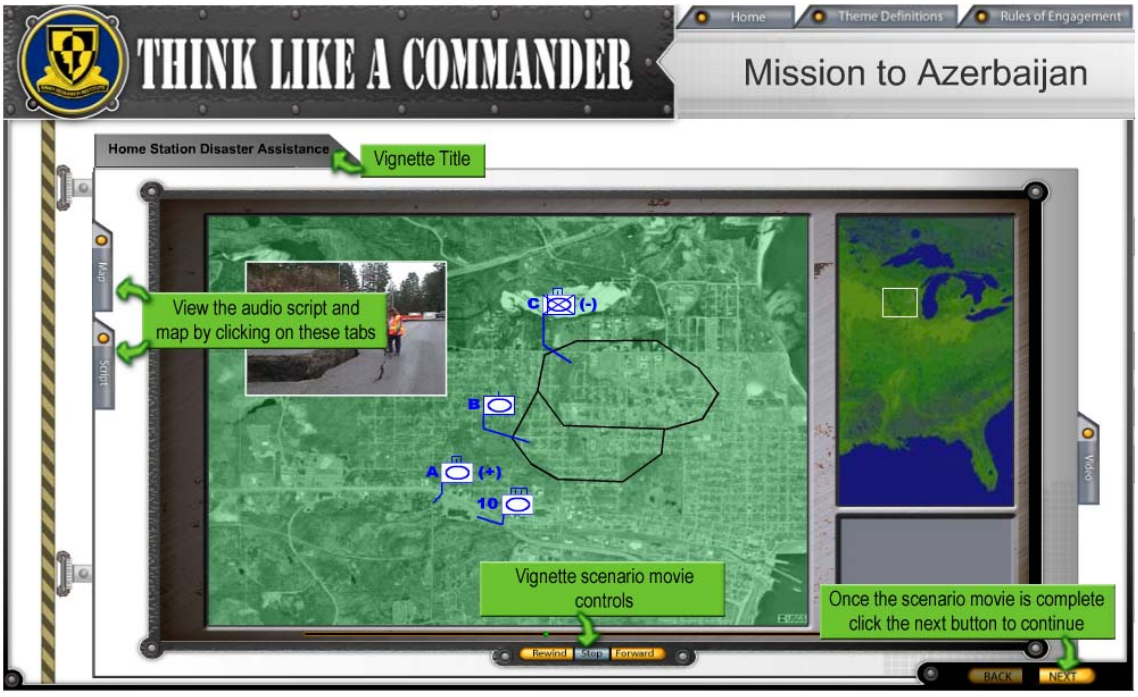


Figure 6. Sample Vignette Page.

5. Once students have viewed the scenario, the **[NEXT]** button will move them to a screen that requires them to identify and describe critical issues concerning the vignette. Students type in their responses in the space provided. See Figure 7.

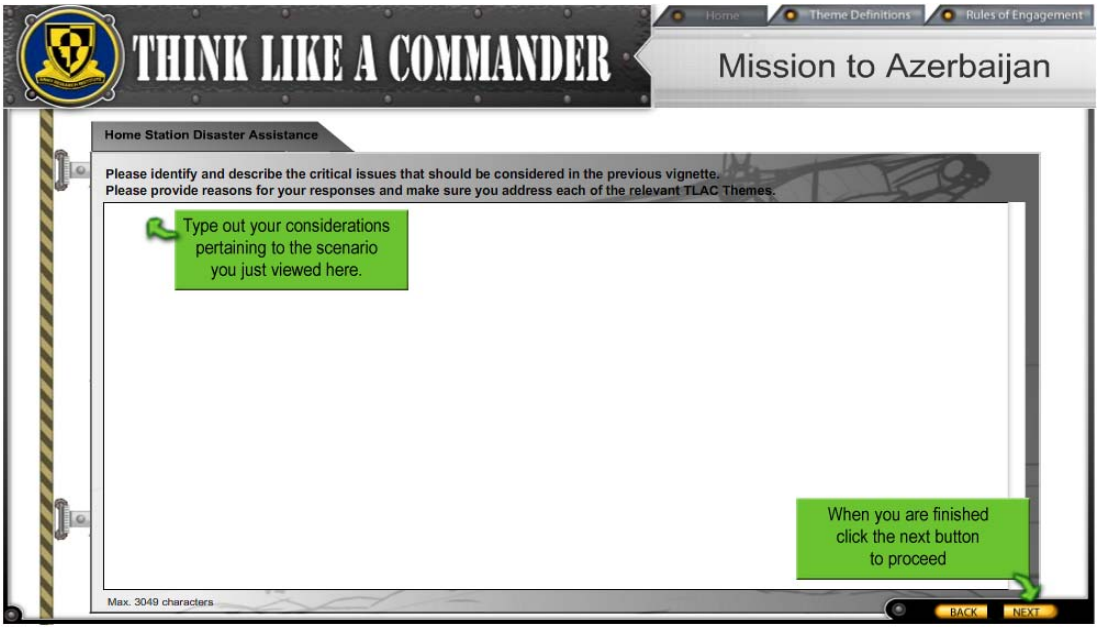


Figure 7. Student Input Screen.

6. After students record their considerations, the **[NEXT]** button will open the first of five coaching videos to guide them through the rest of the lesson. See Figure 8.

Figure 8. Sample Coaching Animation.

a. During each coaching session, there are four input screens which give students an opportunity to compare their initial considerations (from Figure 7) with responses derived from experts. There are two considerations for each theme and a total of 16 for each vignette. See Figure 9 for one example.

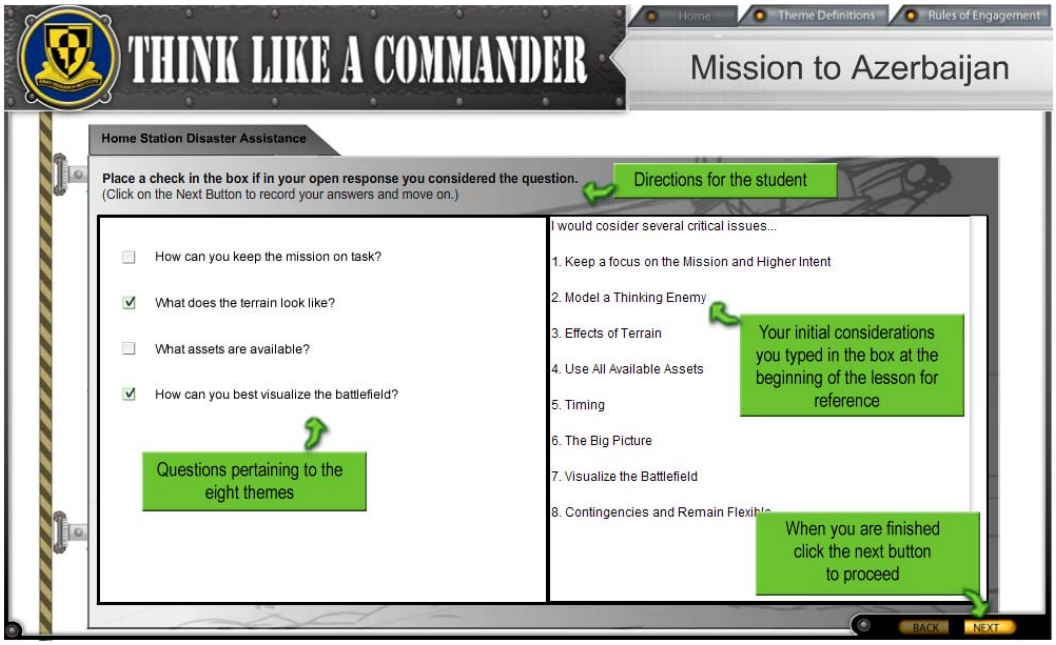


Figure 9. Response Screen.

b. There are also two opportunities for the students to input information based on questions provided in an open response format. See Figure 10 below.

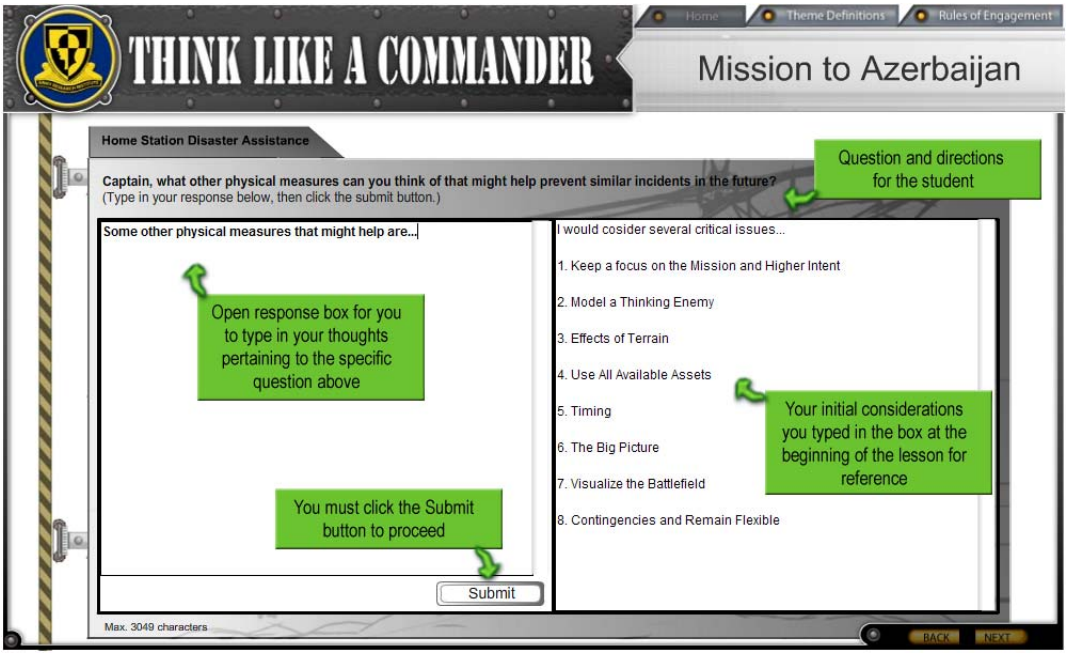


Figure 10. Open Response.

c. After students submit their considerations to the open response question, feedback appears on the right hand side. This allows students to see if they are on the right track. See Figure 11.

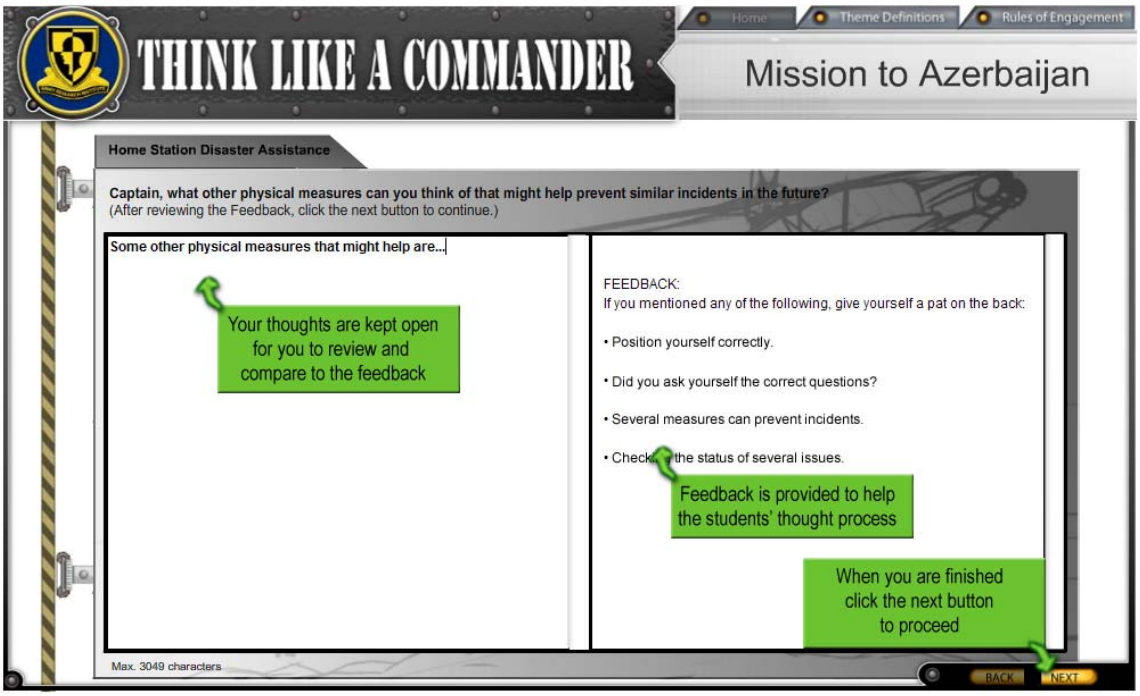


Figure 11. Feedback.

d. At the end of each vignette, a fifth and final coaching video will play to wrap things up. See Figure 12.

Figure 12. Wrap Up.

e. The next page allows students to view a summary of their results. The eight themes are listed on the left. The considerations derived from experts are shown to the right. The students' initial responses are shown at the bottom of the page. Rolling the mouse over themes in the upper left section will cause the expert considerations to the right to highlight green if considered in students' initial responses and red if not. Clicking on any one of the eight themes in the upper left will open a pop up window with a description of that theme. See Figure 13.

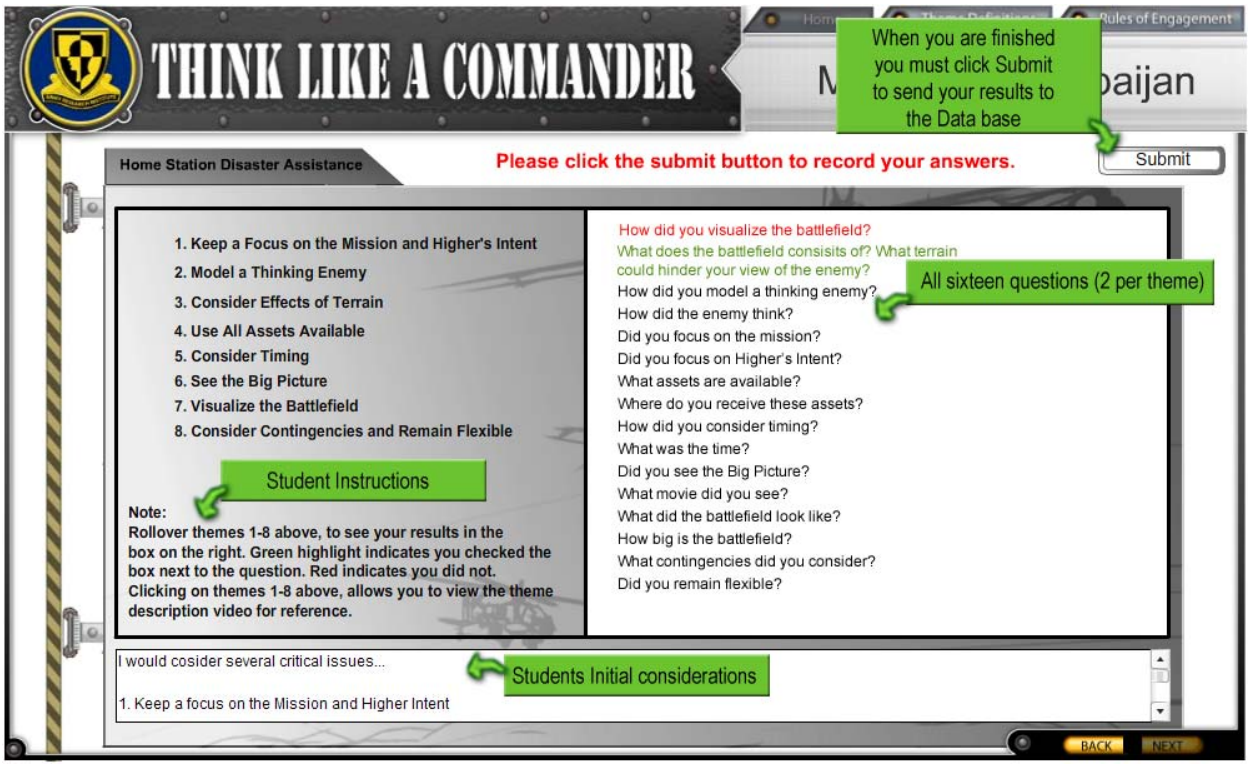


Figure 13. Results.

7. After the students review the summary page, clicking the **[SUBMIT]** button will send all students' information to a database. Also, a separate window will appear giving the students a chance to review all the open responses they input as well as allow them to copy and paste their responses into a document that can be saved for personal use. The information stored in the database is "behind the scenes" and will not be available for student access. See Figure 14.

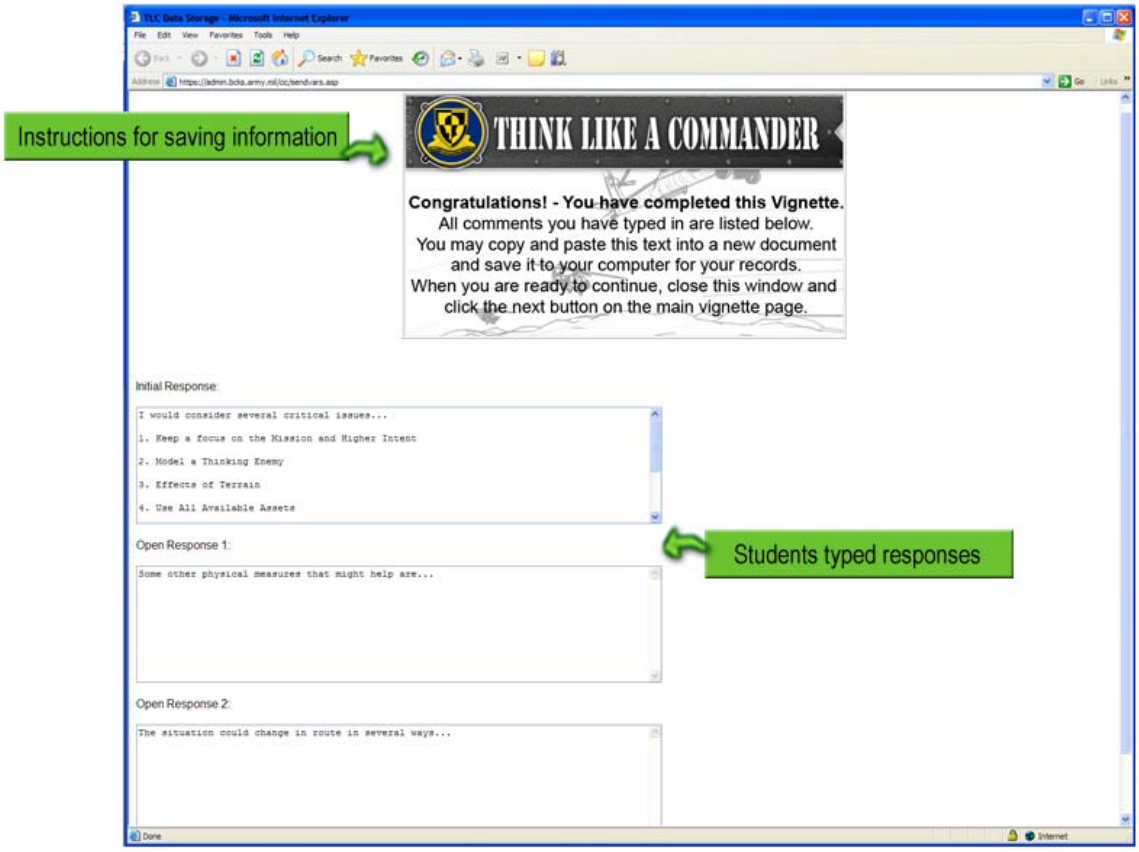


Figure 14. Review.

8. After students review the typed open responses and close the additional window, the vignette screen confirms they have completed the vignette. The students may then close out the lesson page or click **[NEXT]** to return to the main interface and choose another vignette to continue their training. See Figure 15.

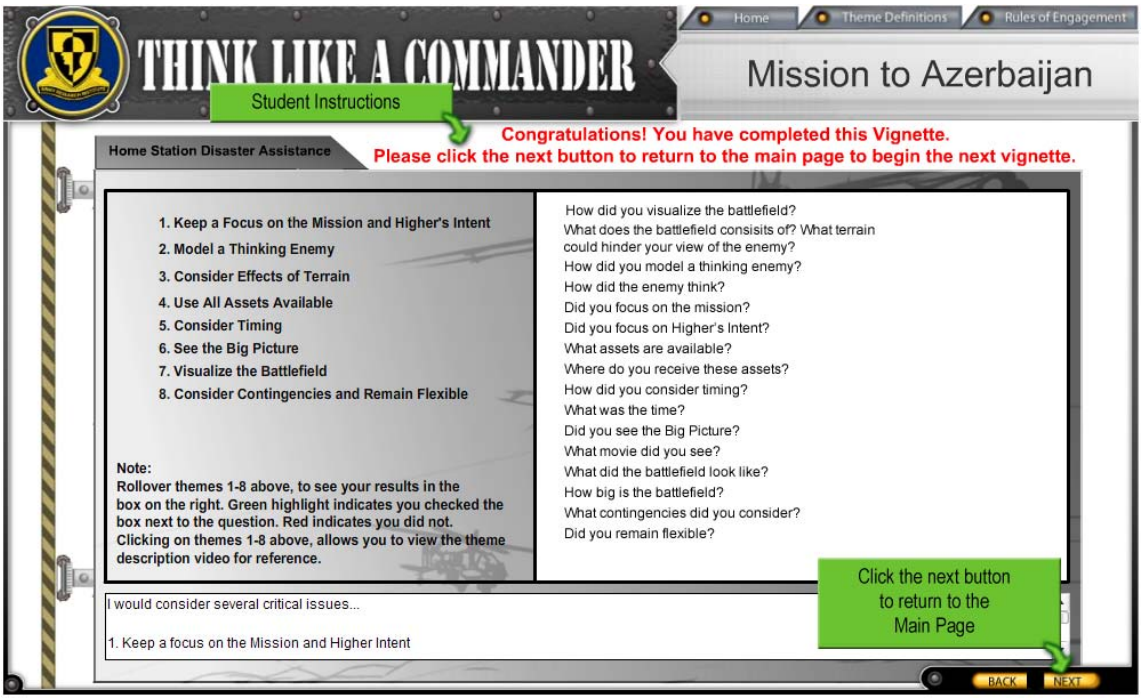


Figure 15. Return to Main Menu

Usability Results

In order to assess the ease with which Soldiers could navigate and use the Captains in Command (CIC) web site, 58 Soldiers completed a website user survey. Six of the Soldiers were captains enrolled in the Armor Captain's Career Course—Reserve Component (ACCC-RC), 27 (5 NCOs, 1 WO, 4 LTs, 17 CPTs) were Soldiers stationed at Ft. Bliss, TX, and 25 (15 LT's, 10 CPT's) were Soldiers stationed at Ft. Riley, KS. The Soldiers were from both maneuver (infantry, armor) and non-maneuver (e.g., air defense artillery, aviation, and signal) branches.

The ACCC-RC Soldiers completed six vignettes over a number of days as a part of the course. The Soldiers from Ft. Bliss and Ft. Riley viewed the "TLAC Themes" video and completed two randomly assigned vignettes (counterbalanced across participants) in a single half-day session. Upon completion of the vignettes, Soldiers filled out a survey assessing the training value of the CIC training and the usability of the CIC website. The usability and training value survey consisted of five items covering overall navigation, as well as assessments of each component of a vignette (see Table 1 and Figure 16 for the phrasing of each item). The items were 5-point Likert scales in which Soldiers indicated the degree to which they agreed (from *Strongly Disagree* to *Strongly Agree*) with a statement concerning the website. For analysis, each response was coded from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*).

Soldiers consistently rated both the usability of the website and the value of the training highly (see Table 1 and Figure 16). Single sample *t*-tests revealed that each item was rated significantly greater than a neutral rating of *Unsure* (3), all *t*'s > 5.90. The only item that had an average rating below 4.0 (equivalent to *Slightly Agree*) was the item "*The tactical situation video clip provided an easily understandable tactical situation*." This item might have scored a bit lower because of the large number of Soldiers from non-maneuver branches compared to those from maneuver branches (38 vs. 20). The training was originally designed for Soldiers in maneuver (specifically armor) branches, and maneuver Soldiers (M = 4.15, SD = 1.04) did rate the vignettes as marginally more understandable than did non-maneuver Soldiers (M = 3.82, SD = 1.27), t (56) = 1.36, p = .09, one-tailed. Taken together, these results provide strong support for the Captains in Command website and training. Even when Soldiers had a very limited amount of time to use the website, they found it easy to use and a valuable training experience.

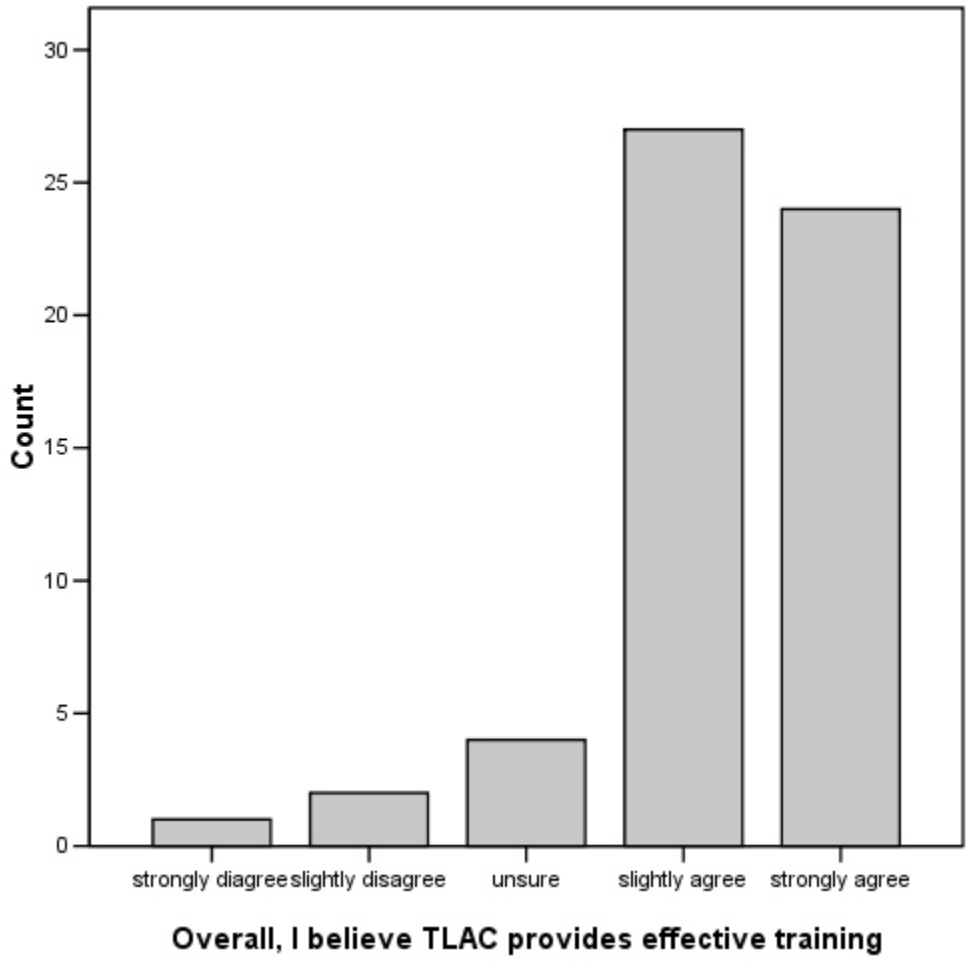


Figure 16. Frequency of responses to training effectiveness item on Captains in Command Web Site usability survey.

Table 1

Frequency and mean (M) of responses to items on Captains in Command Web Site usability survey

Item	Level of Agreement					
	Strongly Disagree (1)	Slightly Disagree (2)	Unsure (3)	Slightly Agree (4)	Strongly Agree (5)	M
It was easy to navigate through the Think Like a Commander (TLAC) website	1	5	4	20	28	4.19
I was able to find the videos and themes when needed	1	3	3	18	33	4.36
The tactical situation video clip provided an easily understandable tactical situation	4	6	1	26	21	3.93
The animated coaching video clips effectively reinforced the TLAC themes	1	4	1	27	25	4.22
The performance assessment checklist effectively supported adaptive thinking training	2	1	2	34	19	4.16

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